

# SEQUENCE LISTING

<110> Korneluk, Robert G.  
 LaCasse, Eric  
 Baird, Stephen  
 Holcik, Martin  
 Young, Sean

<120> Antisense IAP Nucleic Acids and Uses  
 Thereof

<130> 07891/025005

<150> 09/672,717

<151> 2000-09-28

<160> 231

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 1

aaaattctaa gtacctgca

19

<210> 2

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 2

tctagagggt ggctcagga

19

<210> 3

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 3

cagatatata tgtaacact

19

<210> 4

<211> 19

<212> DNA

<213> Artificial Sequence

<220>  
 <223> based on Homo sapiens  
  
 <400> 4  
 tgagagccct ttttttggtt 19  
  
 <210> 5  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 5  
 agtatgaaat atttctgat 19  
  
 <210> 6  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 6  
 attggttcca atgtgttct 19  
  
 <210> 7  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 7  
 ttagcaaaat atgttttaa 19  
  
 <210> 8  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 8  
 tgaattaatt tttaatatc 19  
  
 <210> 9  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 9

attcaaggca tcaaagttg	19
<210> 10	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 10	
gtcaaatacat taattagga	19
<210> 11	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 11	
aatatgtaaa ctgtgatgc	19
<210> 12	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 12	
gcagaataaaa actaataat	19
<210> 13	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 13	
gaaagtaata tttaagcag	19
<210> 14	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 14	
ttaccacatc attcaagtc	19
<210> 15	
<211> 19	

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 15  
 ctaaatacta gagttcgac 19  
  
 <210> 16  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 16  
 acacgaccgc taagaaaca 19  
  
 <210> 17  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 17  
 tatccactta tgacataaa 19  
  
 <210> 18  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 18  
 gttataggag ctaacaaat 19  
  
 <210> 19  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 19  
 aatgtgaaac acaagcaac 19  
  
 <210> 20  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens

<400> 20

acattatatt aggaaatcc

19

<210> 21

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 21

cttgtccacc ttttctaaa

19

<210> 22

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 22

atcttctctt gaaaatagg

19

<210> 23

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 23

ccttcaaaac tggtaaaag

19

<210> 24

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 24

atgtctgcag gtacacaag

19

<210> 25

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 25

atctattaata ctcttctac

19

<210> 26  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 26  
 acaggactac cacttgga 19  
  
 <210> 27  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 27  
 tgccagtgtt gatgctgaa 19  
  
 <210> 28  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 28  
 gtataaagaa accctgctc 19  
  
 <210> 29  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 29  
 cgcacggtat ctccttcac 19  
  
 <210> 30  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 30  
 ctacagctgc atgacaact 19  
  
 <210> 31  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens  
  
 <400> 31  
 gctgagtctc catattgcc 19  
  
 <210> 32  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 32  
 atactttcct gtgtcttcc 19  
  
 <210> 33  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 33  
 gataaatctg caatttggg 19  
  
 <210> 34  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 34  
 ttgtagactg cgtggcact 19  
  
 <210> 35  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 35  
 accattctgg ataccagaa 19  
  
 <210> 36  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 36

agttttcaac tttgtactg 19

<210> 37  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 37  
 atgatctctg cttcccaga 19

<210> 38  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 38  
 agatggcctg tctaaggca 19

<210> 39  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 39  
 agttctcaaa agatagtct 19

<210> 40  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 40  
 gtgtctgata tatctacaa 19

<210> 41  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 41  
 tcgggtatat ggtgtctga 19

<210> 42  
 <211> 19



<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 42  
 cagggttcct cgggtatat 19  
  
 <210> 43  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 43  
 gcttcttcac aatacatgg 19  
  
 <210> 44  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 44  
 ggccagttct gaaaggact 19  
  
 <210> 45  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 45  
 gctaactctc ttgggggta 19  
  
 <210> 46  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 46  
 gtgtagtaga gtccagcac 19  
  
 <210> 47  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens

<400> 47

aagcactgca cttggtcac

19

<210> 48

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 48

ttcagttttc caccacaac

19

<210> 49

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 49

acgatcacao gggtcccaa

19

<210> 50

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 50

tcgcctgtgt tctgaccag

19

<210> 51

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 51

ccggcccaaa acaaagaag

19

<210> 52

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 52

gattcacttc gaatattaa

19

<210> 53  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 53  
 tatcagaact cacagcatc 19  
  
 <210> 54  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 54  
 ggaagatttg ttgaatttg 19  
  
 <210> 55  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 55  
 tctgccatgg atggatttc 19  
  
 <210> 56  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 56  
 aagtaaagat ccgtgcttc 19  
  
 <210> 57  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 57  
 ctgagtatat ccatgtccc 19  
  
 <210> 58  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens  
  
 <400> 58  
 gcaagctgct ccttggttaa 19  
  
 <210> 59  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 59  
 aaagcataaa atccagctc 19  
  
 <210> 60  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 60  
 gaaagcactt tactttatc 19  
  
 <210> 61  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 61  
 actgggcttc caatcagtt 19  
  
 <210> 62  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 62  
 gttgttccca aggtcttc 19  
  
 <210> 63  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 63

accctggata ccatttagc	19
<210> 64	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 64	
tgttctaaca gatatttgc	19
<210> 65	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 65	
tatatattct tgtcccttc	19
<210> 66	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 66	
agttaaatga atattgttt	19
<210> 67	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 67	
gacactcctc aagtgaatg	19
<210> 68	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 68	
tttctcagta gttcttacc	19
<210> 69	
<211> 19	

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 69  
 gttagtgatg gtgttttct 19  
  
 <210> 70  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 70  
 agatggatc atcaattct 19  
  
 <210> 71  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 71  
 tgtaccatag gattttgga 19  
  
 <210> 72  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 72  
 cccattcgt atagcttct 19  
  
 <210> 73  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 73  
 attattttct taatgtcct 19  
  
 <210> 74  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens

<400> 74

caagtgattt atagttgct

19

<210> 75

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 75

tagatctgca accagaacc

19

<210> 76

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 76

catcttgcat actgtcttt

19

<210> 77

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 77

ccttagctgc tcttcagta

19

<210> 78

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 78

aagcttctcc tcttgcagg

19

<210> 79

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 79

atatttctat ccatacaga

19

<210> 80  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 80  
 ctagatgtcc acaaggaac 19  
  
 <210> 81  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 81  
 agcacattgt ttacaagtg 19  
  
 <210> 82  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 82  
 agcacatggg acacttgtc 19  
  
 <210> 83  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 83  
 cttgaaagta atgactgtg 19  
  
 <210> 84  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 84  
 octactatag agttagatt 19  
  
 <210> 85  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence



<220>  
 <223> based on Homo sapiens  
  
 <400> 85  
 attcaatcag ggtaataag 19  
  
 <210> 86  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 86  
 aagtcagttc acatcacac 19  
  
 <210> 87  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 87  
 cagtaaaaaa aatggataa 19  
  
 <210> 88  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 88  
 ttcagttata gtatgatgc 19  
  
 <210> 89  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 89  
 tacacttaga aattaaatc 19  
  
 <210> 90  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 90

tctctatctt tccaccagc	19
<210> 91	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 91	
agaatcctaa aacacaaca	19
<210> 92	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 92	
attcgacaaa gtacgtggt	19
<210> 93	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 93	
tgtcagtaca tgttggctc	19
<210> 94	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 94	
acatagtgtt ttgccactt	19
<210> 95	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 95	
ctttgatctg gctcagact	19
<210> 96	
<211> 19	

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 96  
 gaaaccacat ttaacagtt 19  
  
 <210> 97  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 97  
 tcatttgagc ctgggaggu 19  
  
 <210> 98  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 98  
 cggaggctga ggcaggaga 19  
  
 <210> 99  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 99  
 ggtgtggtgg tacgcgcct 19  
  
 <210> 100  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 100  
 acccatgcac aaaactacc 19  
  
 <210> 101  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens  
 <400> 101  
 agaatgtgcc agtaggaga 19  
 <210> 102  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 102  
 tctcacagac gttgggctt 19  
 <210> 103  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 103  
 ccagtggttt gcaagcatg 19  
 <210> 104  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 104  
 gaaatttagt ggccaggaa 19  
 <210> 105  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 105  
 agaaatacac aattgcacc 19  
 <210> 106  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 106  
 tactgatata ttttaagga 19

<210> 107  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 107  
 ttcaacatgg agattctaa 19  
  
 <210> 108  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 108  
 atttctatgc atttagagt 19  
  
 <210> 109  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 109  
 aatactaggc tgaaaagcc 19  
  
 <210> 110  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 110  
 ggctttgctt ttatcagtt 19  
  
 <210> 111  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 111  
 tctagggagg tagttttgt 19  
  
 <210> 112  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens  
  
 <400> 112  
 gggaagaaaa gggactagc 19  
  
 <210> 113  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 113  
 gttcataatg aaatgaatg 19  
  
 <210> 114  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 114  
 ataagaatat gctgttttc 19  
  
 <210> 115  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 115  
 ttcaaacgtg ttggcgctt 19  
  
 <210> 116  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 116  
 atgacaagtc gtatttcag 19  
  
 <210> 117  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 117

aagtggaata cgtagacat	19
<210> 118	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 118	
agacaggaac cccagcagg	19
<210> 119	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 119	
cgagcaagac tcctttctg	19
<210> 120	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 120	
agtgtaatag aaaccagca	19
<210> 121	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 121	
tgaccttgtc attcacacc	19
<210> 122	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 122	
ttatccagca tcaggccac	19
<210> 123	
<211> 19	

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 123  
 actgtctoct cttttccag 19  
  
 <210> 124  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 124  
 ttttatgctt ttcagtagg 19  
  
 <210> 125  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 125  
 acgaatctgc agctaggat 19  
  
 <210> 126  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 126  
 caagttgtta acggaattt 19  
  
 <210> 127  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 127  
 taggctgaga ggtagcttc 19  
  
 <210> 128  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>



<223> based on Homo sapiens  
 <400> 128  
 gttactgaag aaggaaaag 19  
 <210> 129  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 129  
 gaatgagtgt gtggaatgt 19  
 <210> 130  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 130  
 tgttttctgt acccggaag 19  
 <210> 131  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 131  
 gagccacgga aatatccac 19  
 <210> 132  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 132  
 tgatggagag tttgaataa 19  
 <210> 133  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 133  
 gatttgctct ggagtttac 19

<210> 134  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 134  
ggcagaaaat tcttgattt

19

<210> 135  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 135  
ggacaggggt aggaacttc

19

<210> 136  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 136  
gcattttcgt tattcattg

19

<210> 137  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 137  
ctgaaaagta agtaatctg

19

<210> 138  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 138  
ggcgacagaa aagtcaatg

19

<210> 139  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
 <223> based on Homo sapiens  
  
 <400> 139  
 ccactctgtc tccaggtcc 19  
  
 <210> 140  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 140  
 ccaccacagg caaagcaag 19  
  
 <210> 141  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 141  
 ttcggttccc aattgctca 19  
  
 <210> 142  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 142  
 ttctgacata gcattatcc 19  
  
 <210> 143  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 143  
 tgggaaaatg tctcaggtg 19  
  
 <210> 144  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 144

tataaatggg catttggga	19
<210> 145	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 145	
tgtcttgaag ctgatttct	19
<210> 146	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 146	
gaaactgtgt atcttgaag	19
<210> 147	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 147	
tgtctgcatg ctcagatta	19
<210> 148	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 148	
gaatgtttta aagcgggct	19
<210> 149	
<211> 19	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> based on Homo sapiens	
<400> 149	
cactagaggg ccagttaaa	19
<210> 150	
<211> 19	

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 150  
 ccgcacttgc aagctgctc 19  
  
 <210> 151  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 151  
 catcatcact gttacccac 19  
  
 <210> 152  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 152  
 ccacatcac agcaaaagc 19  
  
 <210> 153  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 153  
 tccagattcc caacacctg 19  
  
 <210> 154  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 154  
 cccatggatc atctccaga 19  
  
 <210> 155  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens  
 <400> 155  
 aaccacttgg catgttgaa 19  
 <210> 156  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 156  
 caagtactca caccttgga 19  
 <210> 157  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 157  
 cctgtccttt aattcttat 19  
 <210> 158  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 158  
 tgaacttgac ggatgaact 19  
 <210> 159  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 159  
 tagatgaggg taactggct 19  
 <210> 160  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> based on Homo sapiens  
 <400> 160  
 tggatagcag ctgttcaag 19

<210> 161  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 161  
 cattttcatc tcctgggct 19  
  
 <210> 162  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 162  
 tggataattg atgactctg 19  
  
 <210> 163  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 163  
 gtcttctcca ggttcaaaa 19  
  
 <210> 164  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 164  
 tattcatcat gattgcatc 19  
  
 <210> 165  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 165  
 catttccacg gcagcatta 19  
  
 <210> 166  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 166  
ccaggcttct actaaagcc 19

<210> 167  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 167  
gctaggattt ttctctgaa 19

<210> 168  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 168  
tctataattc tctccagtt 19

<210> 169  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 169  
acacaagatc attgactag 19

<210> 170  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 170  
tctgcattga gtaagtcta 19

<210> 171  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 171



ctcttccctt atttcatct 19

<210> 172  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 172  
 tcctcagttg ctctttctc 19

<210> 173  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 173  
 gccattctat tcttccgga 19

<210> 174  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 174  
 agtcaaagt tgaaaaagt 19

<210> 175  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 175  
 ccaggattgg aattacaca 19

<210> 176  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens

<400> 176  
 attccggcag ttagtagac 19

<210> 177  
 <211> 19

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 177  
 taacatcatg ttcttggtc 19  
  
 <210> 178  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 178  
 gtctgtgtct tctgtttaa 19  
  
 <210> 179  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 179  
 ttctcttgct tgtaaagac 19  
  
 <210> 180  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 180  
 ctaaaatcgt atcaatcag 19  
  
 <210> 181  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 181  
 ggctgcaata tttcctttt 19  
  
 <210> 182  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens

<400> 182

gagagtttct gaatacagt

19

<210> 183

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 183

acagcttcag cttcttgca

19

<210> 184

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 184

aaataaatgc tcatataac

19

<210> 185

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 185

gaaacatctt ctgtgggaa

19

<210> 186

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 186

gttcttccac tggtagatc

19

<210> 187

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<400> 187

cttctttag tctccgcaa

19

<210> 188  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 188  
 ttgtccatac acactttac 19  
  
 <210> 189  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 189  
 aaccaaatta ggataaaaag 19  
  
 <210> 190  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 190  
 atgttcatat ggttttagat 19  
  
 <210> 191  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 191  
 taagttttac ttcacttac 19  
  
 <210> 192  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 192  
 atgttcccgg tatttagtac 19  
  
 <210> 193  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> based on Homo sapiens  
  
 <400> 193  
 gggctcaagt aattctctt 19  
  
 <210> 194  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 194  
 gcccaggatg gattcaaac 19  
  
 <210> 195  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <221> modified\_base  
 <222> 1  
 <223> y=gm  
  
 <221> modified\_base  
 <222> 18  
 <223> y=cm  
  
 <400> 195  
 yagaagatga ctggtaya 19  
  
 <210> 196  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <221> misc\_feature  
 <222> 1,17,18  
 <223> y=u or t  
  
 <400> 196  
 ygtgctattc tgtgaayy 18  
  
 <210> 197  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens

<400> 197 tctgcttcaa ggagctggaa	20
<210> 198 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> based on Homo sapiens	
<400> 198 gaaaggaaag cgcaaccg	18
<210> 199 <211> 30 <212> DNA <213> Artificial Sequence	
<220> <223> based on Homo sapiens	
<400> 199 agccagatga cgaccccata gaggaacata	30
<210> 200 <211> 21 <212> DNA <213> Artificial Sequence	
<220> <223> based on Homo sapiens	
<400> 200 tggagatgat ccatgggttc a	21
<210> 201 <211> 29 <212> DNA <213> Artificial Sequence	
<220> <223> based on Homo sapiens	
<400> 201 gaactcctgt cctttaattc ttatcaagt	29
<210> 202 <211> 27 <212> DNA <213> Artificial Sequence	
<220> <223> based on Homo sapiens	
<400> 202 ctcacacctt ggaaaccact tggcatg	27
<210> 203	

<211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 203  
 ggtgataaag taaagtgctt tcactgt 27  
  
 <210> 204  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 204  
 tcagtagttc ttaccagaca ctctcaa 28  
  
 <210> 205  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 205  
 caacatgcta aatggatatcc agggtgcaaa tatc 34  
  
 <210> 206  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 206  
 gaaggtgaag gtcggagtc 19  
  
 <210> 207  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 207  
 gaagatggtg atgggattc 19  
  
 <210> 208  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> based on Homo sapiens

<400> 208  
caagcttccc gttctcagcc

20

<210> 209  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> modified\_base  
<222> 1,17  
<223> y= cm

<221> modified\_base  
<222> 3,18  
<223> y=gm

<221> modified\_base  
<222> 19  
<223> y=um

<223> based on Homo sapiens

<400> 209  
yayagatttc atttaayyy

19

<210> 210  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> modified\_base  
<222> 1,18  
<223> y=cm

<221> modified\_base  
<222> 2,17  
<223> y=um

<223> based on Homo sapiens

<400> 210  
yyacgctcgc catcgtyya

19

<210> 211  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> modified\_base  
<222> 3,18  
<223> y=cm

<221> modified\_base



<222> 1,17  
 <223> y=um  
  
 <221> modified\_base  
 <222> 2,16  
 <223> y=gm  
  
 <223> based on Homo sapiens  
  
 <400> 211  
 yyccaagaa tactagyya 19  
  
 <210> 212  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <221> modified\_base  
 <222> 1,17,18  
 <223> y=um  
  
 <221> modified\_base  
 <222> 19  
 <223> y=cm  
  
 <223> based on Homo sapiens  
  
 <400> 212  
 yaagctgttc tatgtgyy 19  
  
 <210> 213  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 213  
 aagggcggcg gaggagac 19  
  
 <210> 214  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> based on Homo sapiens  
  
 <400> 214  
 agaggacgga gtcggaggc 19  
  
 <210> 215  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> based on Homo sapiens

<400> 215

cggagcgtga ggatggaga

19

<210> 216

<211> 68

<212> PRT

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<221> VARIANT

<222> 1-3,6,9,10,14,15,18-20,24, 30,32,33,35,37,40, 42-47, 49-51,  
53-57, 59-62, 64,66

<223> Xaa=any amino acid

<221> VARIANT

<222> 13, 16,17

<223> Xaa=any amino acid or is absent

<400> 216

Xaa	Xaa	Xaa	Arg	Leu	Xaa	Thr	Phe	Xaa	Xaa	Trp	Pro	Xaa	Xaa	Xaa	Xaa
1				5					10				15		
Xaa	Xaa	Xaa	Xaa	Xaa	Leu	Ala	Xaa	Ala	Gly	Phe	Tyr	Tyr	Xaa	Gly	Xaa
			20					25					30		
Xaa	Asp	Xaa	Val	Xaa	Cys	Phe	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Trp
			35				40					45			
Xaa	Xaa	Xaa	Asp	Xaa	Xaa	Xaa	Xaa	Xaa	His	Xaa	Xaa	Xaa	Xaa	Pro	Xaa
			50			55					60				
Cys	Xaa	Phe	Val												
65															

<210> 217

<211> 46

<212> PRT

<213> Artificial Sequence

<220>

<223> based on Homo sapiens

<221> VARIANT

<222> 2-7,9-11,17-21,23,25, 30-32,34-35, 38-42 ,45

<223> Xaa=any amino acid

<221> VARIANT

<222> 8

<223> Xaa=Glu or Asp

<221> VARIANT

<222> 14,22

<223> Xaa=Val or Ile

<400> 217

Glu	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Lys	Xaa	Cys	Met
1				5					10				15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Phe	Xaa	Pro	Cys	Gly	His	Xaa	Xaa

20 25 30  
 Cys Xaa Xaa Cys Ala Xaa Xaa Xaa Xaa Xaa Cys Pro Xaa Cys  
 35 40 45

<210> 218  
 <211> 2540  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(2540)  
 <223> n=a,t,c, or g

<400> 218  
 gaaaaggtgg acaagtccta ttttcaagag aagatgactt ttaacagttt tgaaggatct 60  
 aaaacttggtg tacctgcaga catcaataag gaagaagaat ttgtagaaga gtttaataga 120  
 ttaaaaaactt ttgctaattt tccaagtggt agtcctgttt cagcatcaac actggcacga 180  
 gcagggtttc tttatactgg tgaaggagat accgtgcggt gctttagttg tcatgcagct 240  
 gtagatagat ggcaatatgg agactcagca gttggaagac acaggaaaagt atcccccatt 300  
 tgcagattta tcaacggctt ttatcttgaa aatagtgcca cgcagtctac aaattctggt 360  
 atccagaatg gtcagtacaa agttgaaaaac tatctgggaa gcagagatca ttttgcctta 420  
 gacaggccat ctgagacaca tgcagactat cttttgagaa ctgggcaggt tgtagatata 480  
 tcagacacca tatacccgag gaaccctgcc atgtattgtg aagaagctag attaaagtcc 540  
 tttcagaact ggccagacta tgctcaccta accccaagag agttagcaag tgctggactc 600  
 tactacacag gtattggtga ccaagtgcag tgcttttggt gtggtggaaa actgaaaaat 660  
 tgggaacctt gtgatcgtgc ctggtcagaa cacaggcgac actttcctaa ttgcttcttt 720  
 gttttgggcc ggaatcttaa tattcgaagt gaatctgatg ctgtgagttc tgataggaat 780  
 ttcccaaatt caacaaatct tccaagaaat ccatccatgg cagattatga agcacggatc 840  
 tttacttttg ggacatggat atactcagtt aacaaggagc agcttgcaag agctggattt 900  
 tatgctttag gtgaagggtga taaagtaaag tgctttcact gtggaggagg gctaactgat 960  
 tggaagccca gtgaagaccc ttgggaacaa catgctaaat ggtatccagg gtgcaaatat 1020  
 ctggttagaac agaagggaca agaatatata aacaatattc atttaactca ttcacttgag 1080  
 gagtgtctgg tgagaaaaca ccatcactaa ctagaagaat tgatgatacc 1140  
 atcttccaaa atcctatggt acaagaagct atacgaatgg gggtcagttt caaggacatt 1200  
 aagaaaataa tggaggaaaa aattcagata tctgggagca actataaatc acttgagggt 1260  
 ctggttgagc atctagtga tgctcagaaa gacagtatgc aagatgagtc aagtcagact 1320  
 tcattacaga aagagattag tactgaagag cagctaaggc gcctgcaaga ggagaagctt 1380  
 tgcaaaatct gtatggatag aaatattgct atcgtttttg ttccttggtg acatctagtc 1440  
 acttgtaaac aatgtgctga agcagttgac aagtgctcca tgtgctacac agtcattact 1500  
 ttcaagcaaa aaatttttat gtcttaatct aactctatag taggcatgtt atgttgttct 1560  
 tattaccctg attgaatgtg tgatgtgaac tgactttaag taatcaggat tgaattccat 1620  
 tagcatttgc taccaagtag gaaaaaaaat gtacatggca gtgttttagt tggcaatata 1680  
 atctttgaat ttcttgattt ttccaggtat tagctgtatt atccattttt tttactgtta 1740  
 ttttaattgaa accatagact aagaataaga agcatcatac tataactgaa cacaatgtgt 1800  
 attcatagta tactgattta atttctaagt gtaagtgaat taatcatctg gattttttat 1860  
 tcttttcaga taggcttaac aaatggagct ttctgtatat aaatgtggag attagagtta 1920  
 atctcccaa tcacataatt tgttttgtgt gaaaaaggaa taaattgttc catgctggtg 1980  
 gaaagataga gattgttttt agaggttggt tgttggtgtt taggattctg tccattttct 2040  
 tgtaaaggga taaacacgga cgtgtgcgaa atatgtttgt aaagtgattt gccattgttg 2100  
 aaagcgtatt taatgataga atactatcga gccaacatgt actgacatgg aaagatgtca 2160  
 gagatatgtt aagtgtaaaa tgcaagtggc gggacactat gtatagtctg agccagatca 2220  
 aagtatgtat gttgttaata tgcatagaac gagagatttg gaaagatata caccaactg 2280  
 ttaaatgtgg tttctcttcg gggagggggg gattggggga ggggccccag aggggtttta 2340  
 gaggggcctt ttcacttttc acttttttca ttttgttctg ttcggatttt ttataagtat 2400  
 gtagaccccg aagggtttta tgggaactaa catcagtaac ctaacccccg tgactatcct 2460  
 gtgctcttcc tagggagctg tgttgtttcc caccaccac ccttccctct gaacaaatgc 2520  
 ctgagtgctg gggcactttn 2540

<210> 219  
 <211> 497  
 <212> PRT  
 <213> Homo sapiens

<400> 219

Met	Thr	Phe	Asn	Ser	Phe	Glu	Gly	Ser	Lys	Thr	Cys	Val	Pro	Ala	Asp
1				5					10					15	
Ile	Asn	Lys	Glu	Glu	Phe	Val	Glu	Glu	Phe	Asn	Arg	Leu	Lys	Thr	
			20				25					30			
Phe	Ala	Asn	Phe	Pro	Ser	Gly	Ser	Val	Ser	Ala	Ser	Thr	Leu	Ala	
		35				40					45				
Arg	Ala	Gly	Phe	Leu	Tyr	Thr	Gly	Glu	Gly	Asp	Thr	Val	Arg	Cys	Phe
	50				55					60					
Ser	Cys	His	Ala	Ala	Val	Asp	Arg	Trp	Gln	Tyr	Gly	Asp	Ser	Ala	Val
65				70					75					80	
Gly	Arg	His	Arg	Lys	Val	Ser	Pro	Asn	Cys	Arg	Phe	Ile	Asn	Gly	Phe
				85					90					95	
Tyr	Leu	Glu	Asn	Ser	Ala	Thr	Gln	Ser	Thr	Asn	Ser	Gly	Ile	Gln	Asn
			100					105					110		
Gly	Gln	Tyr	Lys	Val	Glu	Asn	Tyr	Leu	Gly	Ser	Arg	Asp	His	Phe	Ala
		115					120					125			
Leu	Asp	Arg	Pro	Ser	Glu	Thr	His	Ala	Asp	Tyr	Leu	Leu	Arg	Thr	Gly
	130				135						140				
Gln	Val	Val	Asp	Ile	Ser	Asp	Thr	Ile	Tyr	Pro	Arg	Asn	Pro	Ala	Met
145				150						155					160
Tyr	Cys	Glu	Glu	Ala	Arg	Leu	Lys	Ser	Phe	Gln	Asn	Trp	Pro	Asp	Tyr
				165					170					175	
Ala	His	Leu	Thr	Pro	Arg	Glu	Leu	Ala	Ser	Ala	Gly	Leu	Tyr	Tyr	Thr
			180					185					190		
Gly	Ile	Gly	Asp	Gln	Val	Gln	Cys	Phe	Cys	Cys	Gly	Gly	Lys	Leu	Lys
		195					200					205			
Asn	Trp	Glu	Pro	Cys	Asp	Arg	Ala	Trp	Ser	Glu	His	Arg	Arg	His	Phe
	210				215							220			
Pro	Asn	Cys	Phe	Phe	Val	Leu	Gly	Arg	Asn	Leu	Asn	Ile	Arg	Ser	Glu
225				230						235					240
Ser	Asp	Ala	Val	Ser	Ser	Asp	Arg	Asn	Phe	Pro	Asn	Ser	Thr	Asn	Leu
				245					250					255	
Pro	Arg	Asn	Pro	Ser	Met	Ala	Asp	Tyr	Glu	Ala	Arg	Ile	Phe	Thr	Phe
			260				265						270		
Gly	Thr	Trp	Ile	Tyr	Ser	Val	Asn	Lys	Glu	Gln	Leu	Ala	Arg	Ala	Gly
		275					280					285			
Phe	Tyr	Ala	Leu	Gly	Glu	Gly	Asp	Lys	Val	Lys	Cys	Phe	His	Cys	Gly
		290			295						300				
Gly	Gly	Leu	Thr	Asp	Trp	Lys	Pro	Ser	Glu	Asp	Pro	Trp	Glu	Gln	His
305				310						315				320	
Ala	Lys	Trp	Tyr	Pro	Gly	Cys	Lys	Tyr	Leu	Leu	Glu	Gln	Lys	Gly	Gln
				325					330					335	
Glu	Tyr	Ile	Asn	Asn	Ile	His	Leu	Thr	His	Ser	Leu	Glu	Glu	Cys	Leu
			340				345						350		
Val	Arg	Thr	Thr	Glu	Lys	Thr	Pro	Ser	Leu	Thr	Arg	Arg	Ile	Asp	Asp
			355				360					365			
Thr	Ile	Phe	Gln	Asn	Pro	Met	Val	Gln	Glu	Ala	Ile	Arg	Met	Gly	Phe
					375						380				
Ser	Phe	Lys	Asp	Ile	Lys	Lys	Ile	Met	Glu	Glu	Lys	Ile	Gln	Ile	Ser
385				390						395				400	
Gly	Ser	Asn	Tyr	Lys	Ser	Leu	Glu	Val	Leu	Val	Ala	Asp	Leu	Val	Asn
				405					410					415	
Ala	Gln	Lys	Asp	Ser	Met	Gln	Asp	Glu	Ser	Ser	Gln	Thr	Ser	Leu	Gln

420 425 430  
 Lys Glu Ile Ser Thr Glu Glu Gln Leu Arg Arg Leu Gln Glu Glu Lys  
 435 440 445  
 Leu Cys Lys Ile Cys Met Asp Arg Asn Ile Ala Ile Val Phe Val Pro  
 450 455 460  
 Cys Gly His Leu Val Thr Cys Lys Gln Cys Ala Glu Ala Val Asp Lys  
 465 470 475 480  
 Cys Pro Met Cys Tyr Thr Val Ile Thr Phe Lys Gln Lys Ile Phe Met  
 485 490 495  
 Ser

<210> 220  
 <211> 2676  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(2676)  
 <223> n=a,t,c, or g

<400> 220  
 tccttgagat gtatcagtat aggatttagg atctccatgt tggaaactcta aatgcataga 60  
 aatggaaata atggaaattht ttcatttttg cttttcagcc tagtattaaa actgataaaa 120  
 gcaaagccat gcacaaaact acctccctag agaaaggcta gtcccttttc ttccccattc 180  
 atttcattat gaacatagta gaaaacagca tattcttata aaatttgatg aaaagcgcca 240  
 acacgtttga actgaaatac gacttgatcat gtgaactgta ccgaatgtct acgtattcca 300  
 cttttcctgc tggggttcct gtctcagaaa ggagtcttgc tcgtgctggg ttctattaca 360  
 ctgggtgtgaa tgacaagggtc aaatgcttct gttgtggcct gatgctggat aactggaaaa 420  
 gaggagacag tcctactgaa aagcataaaa agttgtatcc tagctgcaga ttcgttcaga 480  
 gtctaaattc cgttaacaac ttggaagcta cctctcagcc tacttttccct tcttcagtaa 540  
 cacattccac acactcatta cttccgggta cagaaaacag tggatatttc cgtggctcct 600  
 attcaaaact tccatcaaat cctgtaaaat ccagagcaaa tcaagaattt tctgccttga 660  
 tgagaagtgc ctacccctgt ccaatgaata acgaaaatgc cagattactt acttttcaga 720  
 catggccatt gacttttctg tcgccaacag atctggcacg agcaggcttt tactacatag 780  
 gacctggaga cagagtggct tgctttgcct gtgggtgaaa attgagcaat tgggaaccga 840  
 aggataatgc tatgtcagaa cacctgagac attttcccaa atgcccattt atagaaaatc 900  
 agcttcaaga cacttcaaga tacacagttt ctaatctgag catgcagaca catgcagccc 960  
 gctttaaac attctttaac tggccctcta gtgttctagt taatcctgag cagcttgcaa 1020  
 gtgcgggttt ttattatgtg ggtaacagtg atgatgtcaa atgcttttgc tgtgatgggt 1080  
 gactcaggtg ttgggaatct ggagatgatc catgggttca acatgccaag tgggtttcaa 1140  
 ggtgtgagta cttgataaga attaaaggac aggagttcat ccgtcaagtt caagccagtt 1200  
 acctcatct acttgaacag ctgctatcca catcagacag cccaggagat gaaaatgcag 1260  
 agtcatcaat tatccatttg gaacctggag aagaccattc agaagatgca atcatgatga 1320  
 atactcctgt gattaatgct gccgtggaaa tgggctttag tagaagcctg gtaaaacaga 1380  
 cagttcagag aaaaatccta gcaactggag agaattatag actagtcaat gatcttgtgt 1440  
 tagacttact caatgcagaa gatgaaataa gggaagagga gagagaaaga gcaactgagg 1500  
 aaaaagaatc aaatgattta ttattaatcc ggaagaatag aatggcactt tttcaacatt 1560  
 tgacttgtgt aattccaatc ctggatagtc tactaactgc cgggaattatt aatgaacaag 1620  
 aacatgatgt tattaaacag aagacacaga cgtctttaca agcaagagaa ctgatttgata 1680  
 cgattttagt aaaaggaaat attgcagcca ctgtattcag aaactctctg caagaagctg 1740  
 aagctgtgtt atatgagcat ttatttgtgc aacaggacat aaaatatatt cccacagaag 1800  
 atgtttcaga tctaccagtg gaagaacaat tgcggagact accagaagaa agaacatgta 1860  
 aagtggtgat ggacaaagaa gtgtccatag tgtttattcc ttgtgggtcat ctagtagtat 1920  
 gcaaagattg tgctccttct ttaagaaagt gtcctatttg taggagtaca atcaagggtta 1980  
 cagttcgtac atttctttca tgaagaagaa ccaaaacatc gtctaaactt tagaattaat 2040  
 ttattaaatg tattataact ttaactttta tcctaatttg gtttccttaa aatttttatt 2100

```

tatttacaac tcaaaaaaaca ttgtttttgtg taacatatattt atatattgtat ctaaaccata 2160
tgaacatatata ttttttagaa actaagagaa tgataggctt ttgttcttat gaacgaaaaa 2220
gaggtagcac tacaaacaca atattcaatc caaatttcag cattattgaa attgtaagtg 2280
aagtaaaact taagatatatt gagttaacct ttaagaattt taaatatttt ggcatgttac 2340
taataccggg aacatgaagc caggtgtggt ggtatgtacc tgtagtcca ggctgaggca 2400
agagaattac ttgagccag gagtttgaat ccacctggg cagcatactg agaccctgcc 2460
tttaaaaacn aacagnacca aanccaaaca ccagggacac atttctctgt cttttttgat 2520
cagtgtccta tacatcgaag gtgtgcatat atgttgaatc acattttagg gacatggtgt 2580
ttttataaag aattctgtga gnaaaaattt aataaagcaa ccaaattact cttaaaaaaa 2640
aaaaaaaaa aaaaaactcg aggggcccg accaat 2676

```

<210> 221  
 <211> 604  
 <212> PRT  
 <213> Homo sapiens

```

<400> 221
Met Asn Ile Val Glu Asn Ser Ile Phe Leu Ser Asn Leu Met Lys Ser
 1          5          10          15
Ala Asn Thr Phe Glu Leu Lys Tyr Asp Leu Ser Cys Glu Leu Tyr Arg
 20          25          30
Met Ser Thr Tyr Ser Thr Phe Pro Ala Gly Val Pro Val Ser Glu Arg
 35          40          45
Ser Leu Ala Arg Ala Gly Phe Tyr Tyr Thr Gly Val Asn Asp Lys Val
 50          55          60
Lys Cys Phe Cys Cys Gly Leu Met Leu Asp Asn Trp Lys Arg Gly Asp
 65          70          75          80
Ser Pro Thr Glu Lys His Lys Lys Leu Tyr Pro Ser Cys Arg Phe Val
 85          90          95
Gln Ser Leu Asn Ser Val Asn Asn Leu Glu Ala Thr Ser Gln Pro Thr
 100         105         110
Phe Pro Ser Ser Val Thr His Ser Thr His Ser Leu Leu Pro Gly Thr
 115         120         125
Glu Asn Ser Gly Tyr Phe Arg Gly Ser Tyr Ser Asn Ser Pro Ser Asn
 130         135         140
Pro Val Asn Ser Arg Ala Asn Gln Glu Phe Ser Ala Leu Met Arg Ser
 145         150         155         160
Ser Tyr Pro Cys Pro Met Asn Asn Glu Asn Ala Arg Leu Leu Thr Phe
 165         170         175
Gln Thr Trp Pro Leu Thr Phe Leu Ser Pro Thr Asp Leu Ala Arg Ala
 180         185         190
Gly Phe Tyr Tyr Ile Gly Pro Gly Asp Arg Val Ala Cys Phe Ala Cys
 195         200         205
Gly Gly Lys Leu Ser Asn Trp Glu Pro Lys Asp Asn Ala Met Ser Glu
 210         215         220
His Leu Arg His Phe Pro Lys Cys Pro Phe Ile Glu Asn Gln Leu Gln
 225         230         235         240
Asp Thr Ser Arg Tyr Thr Val Ser Asn Leu Ser Met Gln Thr His Ala
 245         250         255
Ala Arg Phe Lys Thr Phe Phe Asn Trp Pro Ser Ser Val Leu Val Asn
 260         265         270
Pro Glu Gln Leu Ala Ser Ala Gly Phe Tyr Tyr Val Gly Asn Ser Asp
 275         280         285
Asp Val Lys Cys Phe Cys Cys Asp Gly Gly Leu Arg Cys Trp Glu Ser
 290         295         300
Gly Asp Asp Pro Trp Val Gln His Ala Lys Trp Phe Pro Arg Cys Glu
 305         310         315         320
Tyr Leu Ile Arg Ile Lys Gly Gln Glu Phe Ile Arg Gln Val Gln Ala
 325         330         335

```

Ser	Tyr	Pro	His	Leu	Leu	Glu	Gln	Leu	Leu	Ser	Thr	Ser	Asp	Ser	Pro
			340					345					350		
Gly	Asp	Glu	Asn	Ala	Glu	Ser	Ser	Ile	Ile	His	Leu	Glu	Pro	Gly	Glu
		355					360					365			
Asp	His	Ser	Glu	Asp	Ala	Ile	Met	Met	Asn	Thr	Pro	Val	Ile	Asn	Ala
	370					375					380				
Ala	Val	Glu	Met	Gly	Phe	Ser	Arg	Ser	Leu	Val	Lys	Gln	Thr	Val	Gln
385					390					395					400
Arg	Lys	Ile	Leu	Ala	Thr	Gly	Glu	Asn	Tyr	Arg	Leu	Val	Asn	Asp	Leu
			405					410						415	
Val	Leu	Asp	Leu	Leu	Asn	Ala	Glu	Asp	Glu	Ile	Arg	Glu	Glu	Glu	Arg
			420					425					430		
Glu	Arg	Ala	Thr	Glu	Glu	Lys	Glu	Ser	Asn	Asp	Leu	Leu	Leu	Ile	Arg
		435					440					445			
Lys	Asn	Arg	Met	Ala	Leu	Phe	Gln	His	Leu	Thr	Cys	Val	Ile	Pro	Ile
	450					455					460				
Leu	Asp	Ser	Leu	Leu	Thr	Ala	Gly	Ile	Ile	Asn	Glu	Gln	Glu	His	Asp
465					470					475					480
Val	Ile	Lys	Gln	Lys	Thr	Gln	Thr	Ser	Leu	Gln	Ala	Arg	Glu	Leu	Ile
			485					490						495	
Asp	Thr	Ile	Leu	Val	Lys	Gly	Asn	Ile	Ala	Ala	Thr	Val	Phe	Arg	Asn
			500					505					510		
Ser	Leu	Gln	Glu	Ala	Glu	Ala	Val	Leu	Tyr	Glu	His	Leu	Phe	Val	Gln
		515					520					525			
Gln	Asp	Ile	Lys	Tyr	Ile	Pro	Thr	Glu	Asp	Val	Ser	Asp	Leu	Pro	Val
	530					535					540				
Glu	Glu	Gln	Leu	Arg	Arg	Leu	Pro	Glu	Glu	Arg	Thr	Cys	Lys	Val	Cys
545					550					555					560
Met	Asp	Lys	Glu	Val	Ser	Ile	Val	Phe	Ile	Pro	Cys	Gly	His	Leu	Val
			565					570						575	
Val	Cys	Lys	Asp	Cys	Ala	Pro	Ser	Leu	Arg	Lys	Cys	Pro	Ile	Cys	Arg
			580					585					590		
Ser	Thr	Ile	Lys	Gly	Thr	Val	Arg	Thr	Phe	Leu	Ser				
		595					600								

<210> 222  
 <211> 2580  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(2580)  
 <223> n=a,t,c, or g

<400> 222  
 ttaggttacc tgaaagagtt actacaaccc caaagagttg tgttctaagt agtatcttgg 60  
 taattcagag agatactcat cctacctgaa tataaactga gataaatcca gtaaagaaag 120  
 tgtagtaaat tctacataag agtctatcat tgatttcttt ttgtggtgga aatcttagtt 180  
 catgtgaaga aatttcatgt gaatgtttta gctatcaaac agtactgtca cctactcatg 240  
 cacaaaactg cctcccaaag acttttccca ggtccctcgt atcaaaacat taagagtata 300  
 atggaagata gcacgatctt gtcagattgg acaaacagca acaaacaaaa aatgaagtat 360  
 gacttttcct gtgaactcta cagaatgtct acatattcaa ctttccccgc cggggtgcct 420  
 gtctcagaaa ggagtcttgc tcgtgctggg ttttattata ctggtgtgaa tgacaagggtc 480  
 aaatgcttct gttgtggcct gatgctggat aactggaaac taggagacag tcctattcaa 540  
 aagcataaac agctatatcc tagctgtagc tttattcaga atctggtttc agctagtctg 600  
 ggatccacct ctaagaatac gtctccaatg agaaacagtt ttgcacattc attatctccc 660  
 accttggaaac atagtagctt gttcagtggt tcttactcca gccttctctc aaaccctctt 720

```

aattctagag cagttgaaga catctcttca tgcaggacta acccctacag ttatgcaatg 780
agtactgaag aagccagatt tcttacctac catatgtggc cattaacttt tttgtcacca 840
tcagaattgg caagagctgg tttttattat ataggacctg gagatagggg agcctgcttt 900
gcctgtgggt ggaagctcag taactgggaa ccaaaggatg atgctatgtc agaacaccgg 960
aggcattttc ccaactgtcc atttttggaa aattctctag aaactctgag gtttagcatt 1020
tcaaactctga gcatgcagac acatgcagct cgaatgagaa catttatgta ctggccatct 1080
agtgttccag ttcagcctga gcagcttgca agtgcctggt tttattatgt gggtcgcaat 1140
gatgatgtca aatgctttgg ttgtgatggt ggcttgaggt gttgggaatc tggagatgat 1200
ccatgggtag aacatgccaa gtggtttcca aggtgtgagt tcttgatacg aatgaaaggc 1260
caagagtttg ttgatgagat tcaaggtaga tatcctcatc ttcttgaaca gctgttgta 1320
acttcagata ccactggaga agaaaatgct gacccaccaa ttattcattt tggacctgga 1380
gaaagtctct cagaagatgc tgtcatgatc aatacacctg tggttaaatc tgccttgga 1440
atgggcttta atagagacct ggtgaaacaa acagtcttaa gtaaaatcct gacaactgga 1500
gagaactata aaacagttaa tgatattgtg tcagcacttc ttaatgctga agatgaaaaa 1560
agagaagagg agaaggaaaa acaagctgaa gaaatggcat cagatgattt gtcattaatt 1620
cggaagaaca gaatggctct ctttcaacaa ttgacatgtg tgcttctat cctggataat 1680
cttttaaagg ccaatgtaat taataaacag gaacatgata ttattaaaca aaaaacacag 1740
atacctttac aagcgagaga actgattgat accatttggg ttaaaggaaa tgctgcggcc 1800
aacatcttca aaaactgtct aaaagaaatt gactctacat tgtataagaa cttatttgtg 1860
gataagaata tgaagtatat tccaacagaa gatgtttcag gtctgtcact ggaagaacaa 1920
ttgaggaggt tgcaagaaga acgaacttgt aaagtgtgta tggacaaaga agtttctgtt 1980
gtattttatt cttgtggtca tctggtagta tgccaggaaat gtgccccttc tctaagaaaa 2040
tgccctattt gcaggggtat aatcaagggt actgttcgta catttctctc ttaaagaaaa 2100
atagtctata ttttaacctg cataaaaagg tctttaaat attgttgaa acttgaagcc 2160
atctaaagta aaaagggaat tatgagtttt tcaattagta acattcatgt tctagtctgc 2220
tttgggtacta ataactttgt ttctgaaaag atggtatcat atatttaate ttaatctgtt 2280
tatttacaag ggaagattta tgtttggtga actatattag tatgtatgtg tacctaaggg 2340
agtagcgctn ctgcttggtt tgcatcattt caggagttac tggatttggt gttctttcag 2400
aaagctttga anactaaatt atagtgtaga aaagaactgg aaaccaggaa ctctggagtt 2460
catcagaggt atggtgccga attgtctttg gtgcttttca cttgtgtttt aaaataagga 2520
ttttctctt atttctcccc ctagtttgtg agaaacatct caataaagtg ctttaaaaag 2580

```

<210> 223

<211> 618

<212> PRT

<213> Homo sapiens

<400> 223

```

Met His Lys Thr Ala Ser Gln Arg Leu Phe Pro Gly Pro Ser Tyr Gln
 1          5          10          15
Asn Ile Lys Ser Ile Met Glu Asp Ser Thr Ile Leu Ser Asp Trp Thr
          20          25          30
Asn Ser Asn Lys Gln Lys Met Lys Tyr Asp Phe Ser Cys Glu Leu Tyr
          35          40          45
Arg Met Ser Thr Tyr Ser Thr Phe Pro Ala Gly Val Pro Val Ser Glu
          50          55          60
Arg Ser Leu Ala Arg Ala Gly Phe Tyr Tyr Thr Gly Val Asn Asp Lys
          65          70          75          80
Val Lys Cys Phe Cys Cys Gly Leu Met Leu Asp Asn Trp Lys Leu Gly
          85          90          95
Asp Ser Pro Ile Gln Lys His Lys Gln Leu Tyr Pro Ser Cys Ser Phe
          100          105          110
Ile Gln Asn Leu Val Ser Ala Ser Leu Gly Ser Thr Ser Lys Asn Thr
          115          120          125
Ser Pro Met Arg Asn Ser Phe Ala His Ser Leu Ser Pro Thr Leu Glu
          130          135          140
His Ser Ser Leu Phe Ser Gly Ser Tyr Ser Ser Leu Pro Pro Asn Pro
          145          150          155          160

```



Leu	Asn	Ser	Arg	Ala	Val	Glu	Asp	Ile	Ser	Ser	Ser	Arg	Thr	Asn	Pro	
				165					170					175		
Tyr	Ser	Tyr	Ala	Met	Ser	Thr	Glu	Glu	Ala	Arg	Phe	Leu	Thr	Tyr	His	
			180					185					190			
Met	Trp	Pro	Leu	Thr	Phe	Leu	Ser	Pro	Ser	Glu	Leu	Ala	Arg	Ala	Gly	
		195					200					205				
Phe	Tyr	Tyr	Ile	Gly	Pro	Gly	Asp	Arg	Val	Ala	Cys	Phe	Ala	Cys	Gly	
	210					215					220					
Gly	Lys	Leu	Ser	Asn	Trp	Glu	Pro	Lys	Asp	Asp	Ala	Met	Ser	Glu	His	
225				230						235					240	
Arg	Arg	His	Phe	Pro	Asn	Cys	Pro	Phe	Leu	Glu	Asn	Ser	Leu	Glu	Thr	
			245						250					255		
Leu	Arg	Phe	Ser	Ile	Ser	Asn	Leu	Ser	Met	Gln	Thr	His	Ala	Ala	Arg	
		260						265					270			
Met	Arg	Thr	Phe	Met	Tyr	Trp	Pro	Ser	Ser	Val	Pro	Val	Gln	Pro	Glu	
		275					280					285				
Gln	Leu	Ala	Ser	Ala	Gly	Phe	Tyr	Tyr	Val	Gly	Arg	Asn	Asp	Asp	Val	
	290					295					300					
Lys	Cys	Phe	Gly	Cys	Asp	Gly	Gly	Leu	Arg	Cys	Trp	Glu	Ser	Gly	Asp	
305				310						315					320	
Asp	Pro	Trp	Val	Glu	His	Ala	Lys	Trp	Phe	Pro	Arg	Cys	Glu	Phe	Leu	
			325						330					335		
Ile	Arg	Met	Lys	Gly	Gln	Glu	Phe	Val	Asp	Glu	Ile	Gln	Gly	Arg	Tyr	
		340						345					350			
Pro	His	Leu	Glu	Gln	Leu	Leu	Ser	Thr	Ser	Asp	Thr	Thr	Gly	Glu		
		355				360						365				
Glu	Asn	Ala	Asp	Pro	Pro	Ile	Ile	His	Phe	Gly	Pro	Gly	Glu	Ser	Ser	
	370					375					380					
Ser	Glu	Asp	Ala	Val	Met	Met	Asn	Thr	Pro	Val	Val	Lys	Ser	Ala	Leu	
385					390					395					400	
Glu	Met	Gly	Phe	Asn	Arg	Asp	Leu	Val	Lys	Gln	Thr	Val	Leu	Ser	Lys	
			405						410					415		
Ile	Leu	Thr	Thr	Gly	Glu	Asn	Tyr	Lys	Thr	Val	Asn	Asp	Ile	Val	Ser	
		420						425					430			
Ala	Leu	Leu	Asn	Ala	Glu	Asp	Glu	Lys	Arg	Glu	Glu	Glu	Lys	Glu	Lys	
		435					440					445				
Gln	Ala	Glu	Glu	Met	Ala	Ser	Asp	Asp	Leu	Ser	Leu	Ile	Arg	Lys	Asn	
	450					455					460					
Arg	Met	Ala	Leu	Phe	Gln	Gln	Leu	Thr	Cys	Val	Leu	Pro	Ile	Leu	Asp	
465					470					475					480	
Asn	Leu	Leu	Lys	Ala	Asn	Val	Ile	Asn	Lys	Gln	Glu	His	Asp	Ile	Ile	
			485						490					495		
Lys	Gln	Lys	Thr	Gln	Ile	Pro	Leu	Gln	Ala	Arg	Glu	Leu	Ile	Asp	Thr	
		500						505					510			
Ile	Trp	Val	Lys	Gly	Asn	Ala	Ala	Ala	Asn	Ile	Phe	Lys	Asn	Cys	Leu	
		515					520					525				
Lys	Glu	Ile	Asp	Ser	Thr	Leu	Tyr	Lys	Asn	Leu	Phe	Val	Asp	Lys	Asn	
	530					535					540					
Met	Lys	Tyr	Ile	Pro	Thr	Glu	Asp	Val	Ser	Gly	Leu	Ser	Leu	Glu	Glu	
545					550					555					560	
Gln	Leu	Arg	Arg	Leu	Gln	Glu	Glu	Arg	Thr	Cys	Lys	Val	Cys	Met	Asp	
			565						570					575		
Lys	Glu	Val	Ser	Val	Val	Phe	Ile	Pro	Cys	Gly	His	Leu	Val	Val	Cys	
		580						585					590			
Gln	Glu	Cys	Ala	Pro	Ser	Leu	Arg	Lys	Cys	Pro	Ile	Cys	Arg	Gly	Ile	
		595					600					605				
Ile	Lys	Gly	Thr	Val	Arg	Thr	Phe	Leu	Ser							
	610					615										

<210> 224  
 <211> 2100  
 <212> DNA  
 <213> Mus musculus

<400> 224  
 gacactctgc tgggcggcgg gccgcctcc tccgggacct cccctcggga accgtcgccc 60  
 gcggcgctta gttaggactg gagtgcttgg cgcgaaaagg tggacaagtc ctattttcca 120  
 gagaagatga cttttaacag ttttgaagga actagaactt ttgtacttgc agacaccaat 180  
 aaggatgaag aatttgtaga agagttaaag agattaaaaa catttgctaa cttcccaagt 240  
 agtagtcctg tttcagcatc aacattggcg cgagctgggt ttctttatac cggatgaagga 300  
 gacaccgtgc aatgtttcag ttgtcatgcy gcaatagata gatggcagta tggagactca 360  
 gctgttggaa gacacaggag aatatcccca aattgcagat ttatcaatgg tttttatttt 420  
 gaaaatggtg ctgcacagtc taaaaatcct ggtatccaaa atggccagta caaatctgaa 480  
 aactgtgtgg gaaatagaaa tccttttgcc cctgacaggc cactgagac tcatgctgat 540  
 tatctcttga gaactggaca gggtttagat atttcagaca ccatataccc gaggaaccct 600  
 gccatgtgta gtgaagaagc cagattgaag tcatttcaga actggccgga ctatgctcat 660  
 ttaaccccca gagagtttagc tagtgctggc ctctactaca caggggctga tgatcaagtg 720  
 caatgctttt gttgtggggg aaaactgaaa aattgggaac cctgtgatcg tgcctggcca 780  
 gaacacagga gacactttcc caattgcttt tttgttttgg gccggaacgt taatgttcga 840  
 agtgaatctg gtgtgagttc tgataggaat ttcccaaatt caacaaactc tccaagaaat 900  
 ccagccatgg cagaatatga agcacggatc gttacttttg gaacatggat atactcagtt 960  
 aacaaggagc agcttgcaag agctggattt tatgctttag gtgaaggcga taaagtgaag 1020  
 tgcttccact gtggaggagg gctcacggat tgggaagccaa gtgaagaccc ctgggaccag 1080  
 catgctaagt gctacccagg gtgcaaatac ctattggatg agaaggggca agaataatata 1140  
 aataatattc atttaaccca tccacttgag gaatccttgg gaagaactgc tgaaaaaaca 1200  
 ccaccgctaa ctaaaaaaat cgatgatacc atcttcaga atcctatggg gcaagaagct 1260  
 atacgaatgg gatttagctt caaggacctt aagaaaacaa tgggaagaaa aatccaaaca 1320  
 tccgggagca gctatctatc acttgaggtc ctgattgcag atcttgtgag tgctcagaaa 1380  
 gataatacgg aggatgagtc aagtcaaact tcattgcaga aagacattag tactgaagag 1440  
 cagctaaggc gcctacaaga ggagaagctt tccaaaatct gtatggatag aaatattgct 1500  
 atcgtttttt ttcttgttgg acatctggcc acttgtaaac agtgtgcaga agcagttgac 1560  
 aaatgtccca tgtgctacac cgtcattacg ttcaaccaa aaatttttat gtcttagtgg 1620  
 ggcaccacat gttatgttct tcttgctcta attgaatgtg taatgggagc gaactttaag 1680  
 taatcctgca tttgcattcc attagcatcc tgctgtttcc aaatggagac caatgctaac 1740  
 agcactgttt ccgtctaaac attcaatttc tggatctttc gagttatcag ctgtatcatt 1800  
 tagccagtgt tttactcgat tgaaacctta gacagagaag cattttatag cttttcacat 1860  
 gtatattggg agtacactga cttgatttct atatgtaagt gaattcatca cctgcatgtt 1920  
 tcatgccttt tgcataagct taacaaatgg agtggtctgt ataagcatgg agatgtgatg 1980  
 gaatctgccc aatgacttta attggcttat tgtaaacacg gaaagaactg cccacgctg 2040  
 ctgggaggat aaagattggt ttagatgctc acttctgtgt tttaggattc tgcccattta 2100

<210> 225  
 <211> 496  
 <212> PRT  
 <213> Mus musculus

<400> 225  
 Met Thr Phe Asn Ser Phe Glu Gly Thr Arg Thr Phe Val Leu Ala Asp  
 1 5 10 15  
 Thr Asn Lys Asp Glu Glu Phe Val Glu Glu Phe Asn Arg Leu Lys Thr  
 20 25 30  
 Phe Ala Asn Phe Pro Ser Ser Ser Pro Val Ser Ala Ser Thr Leu Ala  
 35 40 45  
 Arg Ala Gly Phe Leu Tyr Thr Gly Glu Gly Asp Thr Val Gln Cys Phe  
 50 55 60  
 Ser Cys His Ala Ala Ile Asp Arg Trp Gln Tyr Gly Asp Ser Ala Val  
 65 70 75 80

Gly	Arg	His	Arg	Arg	Ile	Ser	Pro	Asn	Cys	Arg	Phe	Ile	Asn	Gly	Phe	
				85					90					95		
Tyr	Phe	Glu	Asn	Gly	Ala	Ala	Gln	Ser	Thr	Asn	Pro	Gly	Ile	Gln	Asn	
			100					105					110			
Gly	Gln	Tyr	Lys	Ser	Glu	Asn	Cys	Val	Gly	Asn	Arg	Asn	Pro	Phe	Ala	
		115					120					125				
Pro	Asp	Arg	Pro	Pro	Glu	Thr	His	Ala	Asp	Tyr	Leu	Leu	Arg	Thr	Gly	
	130					135					140					
Gln	Val	Val	Asp	Ile	Ser	Asp	Thr	Ile	Tyr	Pro	Arg	Asn	Pro	Ala	Met	
145				150						155					160	
Cys	Ser	Glu	Glu	Ala	Arg	Leu	Lys	Ser	Phe	Gln	Asn	Trp	Pro	Asp	Tyr	
				165					170					175		
Ala	His	Leu	Thr	Pro	Arg	Glu	Leu	Ala	Ser	Ala	Gly	Leu	Tyr	Tyr	Thr	
			180					185					190			
Gly	Ala	Asp	Asp	Gln	Val	Gln	Cys	Phe	Cys	Cys	Gly	Gly	Lys	Leu	Lys	
	195						200					205				
Asn	Trp	Glu	Pro	Cys	Asp	Arg	Ala	Trp	Ser	Glu	His	Arg	Arg	His	Phe	
	210				215						220					
Pro	Asn	Cys	Phe	Phe	Val	Leu	Gly	Arg	Asn	Val	Asn	Val	Arg	Ser	Glu	
225				230						235					240	
Ser	Gly	Val	Ser	Ser	Asp	Arg	Asn	Phe	Pro	Asn	Ser	Thr	Asn	Ser	Pro	
				245					250					255		
Arg	Asn	Pro	Ala	Met	Ala	Glu	Tyr	Glu	Ala	Arg	Ile	Val	Thr	Phe	Gly	
			260					265					270			
Thr	Trp	Ile	Tyr	Ser	Val	Asn	Lys	Glu	Gln	Leu	Ala	Arg	Ala	Gly	Phe	
	275					280						285				
Tyr	Ala	Leu	Gly	Glu	Gly	Asp	Lys	Val	Lys	Cys	Phe	His	Cys	Gly	Gly	
	290					295				300						
Gly	Leu	Thr	Asp	Trp	Lys	Pro	Ser	Glu	Asp	Pro	Trp	Asp	Gln	His	Ala	
305				310					315						320	
Lys	Cys	Tyr	Pro	Gly	Cys	Lys	Tyr	Leu	Leu	Asp	Glu	Lys	Gly	Gln	Glu	
				325					330					335		
Tyr	Ile	Asn	Asn	Ile	His	Leu	Thr	His	Pro	Leu	Glu	Glu	Ser	Leu	Gly	
		340						345					350			
Arg	Thr	Ala	Glu	Lys	Thr	Pro	Pro	Leu	Thr	Lys	Lys	Ile	Asp	Asp	Thr	
		355					360					365				
Ile	Phe	Gln	Asn	Pro	Met	Val	Gln	Glu	Ala	Ile	Arg	Met	Gly	Phe	Ser	
	370					375					380					
Phe	Lys	Asp	Leu	Lys	Lys	Thr	Met	Glu	Glu	Lys	Ile	Gln	Thr	Ser	Gly	
385				390					395						400	
Ser	Ser	Tyr	Leu	Ser	Leu	Glu	Val	Leu	Ile	Ala	Asp	Leu	Val	Ser	Ala	
			405						410				415			
Gln	Lys	Asp	Asn	Thr	Glu	Asp	Glu	Ser	Ser	Gln	Thr	Ser	Leu	Gln	Lys	
			420					425					430			
Asp	Ile	Ser	Thr	Glu	Glu	Gln	Leu	Arg	Arg	Leu	Gln	Glu	Glu	Lys	Leu	
	435					440						445				
Ser	Lys	Ile	Cys	Met	Asp	Arg	Asn	Ile	Ala	Ile	Val	Phe	Phe	Pro	Cys	
	450				455						460					
Gly	His	Leu	Ala	Thr	Cys	Lys	Gln	Cys	Ala	Glu	Ala	Val	Asp	Lys	Cys	
465				470						475					480	
Pro	Met	Cys	Tyr	Thr	Val	Ile	Thr	Phe	Asn	Gln	Lys	Ile	Phe	Met	Ser	
				485					490					495		

<210> 226

<211> 2474

<212> DNA

<213> Mus musculus

<400> 226

```

gaattccggg agacctacac ccccgagat cagaggtcat tgctggcggt cagagcctag 60
gaagtgggct gcggtatcag cctagcagta aaaccgacca gaagccatgc acaaaactac 120
atccccagag aaagacttgt cccttccoct ccctgtcatc tcacccatgaa catgggttcaa 180
gacagcgctt ttctagccaa gctgatgaag agtgctgaca cctttgagtt gaagtatgac 240
ttttcctgtg agctgtaccg attgtccacg tattcagctt ttcccagggg agttcctgtg 300
tcagaaaagg gtctggctcg tgctggcttt tactacactg gtgccaatga caaggtcaag 360
tgcttctgct gtggcctgat gctagacaac tggaaacaag gggacagtcc catggagaag 420
cacagaaaagt tgtacccag ctgcaacttt gtacagactt tgaatccagc caacagtctg 480
gaagctagtc ctcggccttc tcttccttcc acggcgatga gcaccatgcc tttgagcttt 540
gcaagtcttg agaatactgg ctatttcagt ggctcttact cgagctttcc ctgagaccct 600
gtgaacttcc gagcaaatca agattgtcct gctttgagca caagtcccta ccactttgca 660
atgaacacag agaaggccag attactcacc tatgaaacat ggccattgtc ttttctgtca 720
ccagcaaaagc tggccaaagc aggtctctac tacataggac ctggagatag agtggcctgc 780
tttgctgctg atgggaaact gagcaactgg gaacgtaagg atgatgctat gtcagagcac 840
cagaggcatt tccccagctg tccgttctta aaagacttgg gtcagtctgc ttcgagatac 900
actgtctcta acctgagcat gcagacacac gcagcccgtt ttagaacatt ctctaactgg 960
ccttctagtg cactagttca ttcccaggaa cttgcaagtg cgggctttta ttatacagga 1020
cacagtgatg atgtcaagtg tttatgctgt gatgggtggc tgaggtgctg ggaatctgga 1080
gatgaccctt ggggtggaaca tgccaagtgg tttccaaggt gtgagtactt gtcagaatc 1140
aaaggccaag aatttgtcag ccaagttcaa gctggctatc ctcatctact tgagcagcta 1200
ttatctacgt cagactcccc agaagatgag aatgcagacg cagcaatcgt gcattttggc 1260
cctggagaaa gttcgggaaga tgtcgtcatg atgagcacgc ctgtggttaa agcagccttg 1320
gaaatgggct tcagtaggag cctggtgaga cagacggttc agtggcagat cctggccact 1380
ggtgagaact acaggaccgt cagtgcacct gttataggct tactcgatgc agaagcagag 1440
atgagagagg agcagatgga gcaggcggcc gaggaggagg agtcagatga tctagcacta 1500
atccggaaga acaaaatggt gcttttccaa catttgacgt gtgtgacacc aatgctgtat 1560
tgctccttaa gtgcaagggc catcactgaa caggagtgca atgctgtgaa acagaaacca 1620
cacaccttac aagcaagcac actgattgat actgtgttag caaaaggaaa cactgcagca 1680
acctcattca gaaactccct tcgggaaatt gaccctgcgt tatacagaga tatatttgtg 1740
caacaggaca ttaggagtct tcccacagat gacattgcag ctctaccaat ggaagaacag 1800
ttgcggcccc tcccgaggga cagaatgtgt aaagtgtgta tggaccgaga ggtatccatc 1860
gtgttcattc cctgtggcca tctggtcgtg tgcaaagact gcgctccctc tctgaggaag 1920
tgtcccatct gtagagggac catcaagggc acagtgcgca cttttctctc ctgaacaaga 1980
ctaattggtc atggctgcaa cttcagccag gaggaagttc actgtcactc ccagttccat 2040
tcggaacttg aggccagcct ggatagcacg agacaccgcc aaacacacaa atataaacat 2100
gaaaaacttt tgtctgaagt caagaatgaa tgaattactt atataataat tttaattggt 2160
ttccttaaaa gtgctatttg ttcccaactc agaaaattgt tttctgtaaa catatttaca 2220
tactacctgc atctaagta ttcatatatt catatattca gatgtcatga gagagggttt 2280
tgttcttggt cctgaaaagc tggtttatca tctgatcagc atatactgcg caacgggcag 2340
ggctagaatc catgaaccaa gctgcaaaga tctcacgcta aataaggcgg aaagatttgg 2400
agaaacgaaa ggaaattctt tcctgtccaa tgtatactct tcagactaat gacctcttcc 2460
tatcaagcct tcta 2474

```

<210> 227

<211> 602

<212> PRT

<213> Mus musculus

<400> 227

```

Met Asn Met Val Gln Asp Ser Ala Phe Leu Ala Lys Leu Met Lys Ser
1          5          10          15
Ala Asp Thr Phe Glu Leu Lys Tyr Asp Phe Ser Cys Glu Leu Tyr Arg
          20          25          30
Leu Ser Thr Tyr Ser Ala Phe Pro Arg Gly Val Pro Val Ser Glu Arg
          35          40          45
Ser Leu Ala Arg Ala Gly Phe Tyr Tyr Thr Gly Ala Asn Asp Lys Val
          50          55          60
Lys Cys Phe Cys Cys Gly Leu Met Leu Asp Asn Trp Lys Gln Gly Asp

```

65					70					75					80
Ser	Pro	Met	Glu	Lys	His	Arg	Lys	Leu	Tyr	Pro	Ser	Cys	Asn	Phe	Val
				85					90					95	
Gln	Thr	Leu	Asn	Pro	Ala	Asn	Ser	Leu	Glu	Ala	Ser	Pro	Arg	Pro	Ser
			100					105					110		
Leu	Pro	Ser	Thr	Ala	Met	Ser	Thr	Met	Pro	Leu	Ser	Phe	Ala	Ser	Ser
		115					120					125			
Glu	Asn	Thr	Gly	Tyr	Phe	Ser	Gly	Ser	Tyr	Ser	Ser	Phe	Pro	Ser	Asp
	130					135					140				
Pro	Val	Asn	Phe	Arg	Ala	Asn	Gln	Asp	Cys	Pro	Ala	Leu	Ser	Thr	Ser
145					150				155						160
Pro	Tyr	His	Phe	Ala	Met	Asn	Thr	Glu	Lys	Ala	Arg	Leu	Leu	Thr	Tyr
				165					170					175	
Glu	Thr	Trp	Pro	Leu	Ser	Phe	Leu	Ser	Pro	Ala	Lys	Leu	Ala	Lys	Ala
		180						185					190		
Gly	Phe	Tyr	Tyr	Ile	Gly	Pro	Gly	Asp	Arg	Val	Ala	Cys	Phe	Ala	Cys
		195				200						205			
Asp	Gly	Lys	Leu	Ser	Asn	Trp	Glu	Arg	Lys	Asp	Asp	Ala	Met	Ser	Glu
	210					215					220				
His	Gln	Arg	His	Phe	Pro	Ser	Cys	Pro	Phe	Leu	Lys	Asp	Leu	Gly	Gln
225					230				235						240
Ser	Ala	Ser	Arg	Tyr	Thr	Val	Ser	Asn	Leu	Ser	Met	Gln	Thr	His	Ala
				245					250					255	
Ala	Arg	Ile	Arg	Thr	Phe	Ser	Asn	Trp	Pro	Ser	Ser	Ala	Leu	Val	His
		260						265					270		
Ser	Gln	Glu	Leu	Ala	Ser	Ala	Gly	Phe	Tyr	Tyr	Thr	Gly	His	Ser	Asp
		275					280					285			
Asp	Val	Lys	Cys	Leu	Cys	Cys	Asp	Gly	Gly	Leu	Arg	Cys	Trp	Glu	Ser
	290					295					300				
Gly	Asp	Asp	Pro	Trp	Val	Glu	His	Ala	Lys	Trp	Phe	Pro	Arg	Cys	Glu
305					310				315						320
Tyr	Leu	Leu	Arg	Ile	Lys	Gly	Gln	Glu	Phe	Val	Ser	Gln	Val	Gln	Ala
				325					330					335	
Gly	Tyr	Pro	His	Leu	Leu	Glu	Gln	Leu	Leu	Ser	Thr	Ser	Asp	Ser	Pro
		340					345						350		
Glu	Asp	Glu	Asn	Ala	Asp	Ala	Ala	Ile	Val	His	Phe	Gly	Pro	Gly	Glu
		355					360					365			
Ser	Ser	Glu	Asp	Val	Val	Met	Met	Ser	Thr	Pro	Val	Val	Lys	Ala	Ala
	370					375					380				
Leu	Glu	Met	Gly	Phe	Ser	Arg	Ser	Leu	Val	Arg	Gln	Thr	Val	Gln	Trp
385					390					395					400
Gln	Ile	Leu	Ala	Thr	Gly	Glu	Asn	Tyr	Arg	Thr	Val	Ser	Asp	Leu	Val
				405					410					415	
Ile	Gly	Leu	Leu	Asp	Ala	Glu	Asp	Glu	Met	Arg	Glu	Glu	Gln	Met	Glu
		420						425					430		
Gln	Ala	Ala	Glu	Glu	Glu	Glu	Ser	Asp	Asp	Leu	Ala	Leu	Ile	Arg	Lys
		435					440					445			
Asn	Lys	Met	Val	Leu	Phe	Gln	His	Leu	Thr	Cys	Val	Thr	Pro	Met	Leu
	450					455					460				
Tyr	Cys	Leu	Leu	Ser	Ala	Arg	Ala	Ile	Thr	Glu	Gln	Glu	Cys	Asn	Ala
465					470					475					480
Val	Lys	Gln	Lys	Pro	His	Thr	Leu	Gln	Ala	Ser	Thr	Leu	Ile	Asp	Thr
				485					490					495	
Val	Leu	Ala	Lys	Gly	Asn	Thr	Ala	Ala	Thr	Ser	Phe	Arg	Asn	Ser	Leu
		500						505					510		
Arg	Glu	Ile	Asp	Pro	Ala	Leu	Tyr	Arg	Asp	Ile	Phe	Val	Gln	Gln	Asp
		515					520					525			
Ile	Arg	Ser	Leu	Pro	Thr	Asp	Asp	Ile	Ala	Ala	Leu	Pro	Met	Glu	Glu
	530					535					540				

Gln	Leu	Arg	Pro	Leu	Pro	Glu	Asp	Arg	Met	Cys	Lys	Val	Cys	Met	Asp
545					550					555					560
Arg	Glu	Val	Ser	Ile	Val	Phe	Ile	Pro	Cys	Gly	His	Leu	Val	Val	Cys
			565						570						575
Lys	Asp	Cys	Ala	Pro	Ser	Leu	Arg	Lys	Cys	Pro	Ile	Cys	Arg	Gly	Thr
			580						585						590
Ile	Lys	Gly	Thr	Val	Arg	Thr	Phe	Leu	Ser						
		595						600							

<210> 228  
 <211> 2416  
 <212> DNA  
 <213> Mus musculus

<400> 228

ctgtggtgga	gatctattgt	ccaagtgggtg	agaaacttca	tctggaagtt	taagcgggtca	60
gaaatactat	tactactcat	ggacaaaact	gtctcccaga	gactcgccca	aggtagctta	120
cacccaaaaa	cttaaacgta	taatggagaa	gagcacaatc	ttgtcaaatt	ggacaaagga	180
gagcgaagaa	aaaatgaagt	ttgacttttc	gtgtgaactc	taccgaatgt	ctacatattc	240
agcttttccc	aggggagttc	ctgtctcaga	gaggagtctg	gctcgtgctg	gcttttatta	300
tacaggtgtg	aatgacaaa	tcaagtgcct	ctgctgtggc	ctgatgttgg	ataactggaa	360
acaaggggac	agtcctgttg	aaaagcacag	acagttctat	cccagctgca	gctttgtaca	420
gactctgctt	tcagccagtc	tgcagtcctc	atctaagaat	atgtctcctg	tgaaaagtag	480
atttgacat	tcgtcacctc	tggaacgagg	tggcattcac	tccaacctgt	gctctagccc	540
tcttaattct	agagcagtgg	aagacttctc	atcaaggatg	gatccctgca	gctatgccat	600
gagtacagaa	gaggccagat	ttcttactta	cagtatgtgg	cctttaagtt	ttctgtcacc	660
agcagagctg	gccagagctg	gcttctatta	catagggcct	ggagacaggg	tggcctgttt	720
tgctgtggt	gggaaactga	gcaactggga	accaaaggat	tatgctatgt	cagagcaccg	780
cagacatttt	ccccactgtc	catttctgga	aaatacttca	gaaacacaga	ggttttagtat	840
atcaaatact	agtatgcaga	cacactctgc	tcgattgagg	acatttctgt	actggccacc	900
tagtgttcct	gttcagccc	agcagcttgc	aagtgtcgga	ttctattacg	tggatcgcaa	960
tgatgatgtc	aagtgccttt	gttgtgatgg	tggcttgaga	tggtgggaac	ctggagatga	1020
cccctggata	gaacacgcca	aatggtttcc	aaggtgtgag	ttcttgatac	ggatgaaggg	1080
tcaggagttt	gttgatgaga	ttcaagctag	atatactcat	cttcttgagc	agctgttgtc	1140
cacttcagac	accccaggag	aagaaaatgc	tgaccctaca	gagacagtgg	tgcatttttg	1200
ccctggagaa	agttcgaaag	atgtcgtcat	gatgagcacg	cctgtgggta	aagcagcctt	1260
ggaaatgggc	ttcagtagga	gcctgggtgag	acagacgggt	cagcggcaga	tcctggccac	1320
tggtgagaa	tacaggaccg	tcaatgatag	tgtctcagta	cttttgaatg	ctgaagatga	1380
gagaagagaa	gaggagaagg	aaagacagac	tgaagagatg	gcatcaggtg	acttatcact	1440
gattcggaag	aatagaatgg	ccctctttca	acagttgaca	catgtccttc	ctatcctgga	1500
taatcttctt	gaggccagtg	taattacaaa	acaggaacat	gatattatta	gacagaaaac	1560
acagataccc	ttacaagcaa	gagagcttat	tgacaccggt	ttagtcaagg	gaaatgctgc	1620
agccaacatc	ttcaaaaact	ctctgaaggg	aattgactcc	acgttatatg	aaaacttatt	1680
tgtggaaaag	aatatgaagt	atattccaac	agaagacgtt	tcaggcttgt	cattggaaga	1740
gcagttgcgg	agattacaag	aagaacgaac	ttgcaaagtg	tgtatggaca	gagaggtttc	1800
tattgtgttc	attccgtgtg	gtcatctagt	agtctgccag	gaatgtgccc	cttctctaag	1860
gaagtgtccc	atctgcaggg	ggacaatcaa	gggactgtg	cgcacatttc	tctcatgagt	1920
gaagaatggg	ctgaaagtat	tgttgacat	cagaagctgt	cagaacaaag	aatgaactac	1980
tgatttcagc	tcttcagcag	gacattctac	tctctttcaa	gattagtaat	cttgctttat	2040
gaagggtagc	attgtatatt	taagcttagt	ctgttgcaag	ggaaggtcta	tgctgttgag	2100
ctacaggact	gtgtctgttc	cagagcagga	gttgggatgc	ttgctgtatg	tccttcagga	2160
cttcttgagg	tttgggaatt	tggggaaagc	tttggaatcc	agtgtgtggg	agctcagaaa	2220
tcctggaacc	agtactctg	gtactcagta	gatagggtac	cctgtacttc	ttggtgcttt	2280
tccagtctgg	gaaataagga	ggaatctgct	gctggtaaaa	atttgctgga	tgtgagaaat	2340
agatgaaagt	gtttcgggtg	ggggcgtgca	tcagtgtagt	gtgtgcaggg	atgtatgcag	2400
gccaaacact	gtgtag					2416

<210> 229

<400> 229

-55-

Leu	Ile	Arg	Lys	Asn	Arg	Met	Ala	Leu	Phe	Gln	Gln	Leu	Thr	His	Val
	435						440					445			
Leu	Pro	Ile	Leu	Asp	Asn	Leu	Leu	Glu	Ala	Ser	Val	Ile	Thr	Lys	Gln
	450					455					460				
Glu	His	Asp	Ile	Ile	Arg	Gln	Lys	Thr	Gln	Ile	Pro	Leu	Gln	Ala	Arg
465					470					475					480
Glu	Leu	Ile	Asp	Thr	Val	Leu	Val	Lys	Gly	Asn	Ala	Ala	Ala	Asn	Ile
			485						490					495	
Phe	Lys	Asn	Ser	Leu	Lys	Gly	Ile	Asp	Ser	Thr	Leu	Tyr	Glu	Asn	Leu
		500						505					510		
Phe	Val	Glu	Lys	Asn	Met	Lys	Tyr	Ile	Pro	Thr	Glu	Asp	Val	Ser	Gly
	515					520						525			
Leu	Ser	Leu	Glu	Glu	Gln	Leu	Arg	Arg	Leu	Gln	Glu	Glu	Arg	Thr	Cys
	530					535					540				
Lys	Val	Cys	Met	Asp	Arg	Glu	Val	Ser	Ile	Val	Phe	Ile	Pro	Cys	Gly
545					550					555					560
His	Leu	Val	Val	Cys	Gln	Glu	Cys	Ala	Pro	Ser	Leu	Arg	Lys	Cys	Pro
			565						570					575	
Ile	Cys	Arg	Gly	Thr	Ile	Lys	Gly	Thr	Val	Arg	Thr	Phe	Leu	Ser	
			580					585					590		

<210> 230

<211> 6669

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(6669)

<223> n=a,t,c, or g

<400> 230

ttgctctgtc	accagtttg	gagtgcagtt	atgcagttctc	acactgcaag	ctctgcctca	60
tgggctcaag	tgaacctcct	gcctcagcct	ctcaagtagc	tgggaccaca	ggcaggtgcc	120
accatgtctg	gctaattttt	gagtttcttt	gtagagatgg	tgttttgcca	agtcacccag	180
tttgaggctg	gtctcaaaca	cctgggctca	agcaatccat	ctacctcagc	ctcccaaagt	240
gctgggatta	caggagttag	ccatggcatg	aggccttggt	gggtgtctct	tttaaataag	300
agcatactct	gtttacgtat	ttgatatgaa	ggaatatcct	tcctttccac	aaagacaaaa	360
attatcctat	ttttctcaaa	acatatgtcc	ttttctctta	cttttcattt	ttgttacttt	420
tgatggacac	atgtgtttaca	ttgatttcac	tttctcataa	ttctgctgta	agaaaaacaa	480
tagtgcagct	tcaatgacaa	atagcaacag	ctgtttattg	ctagactggt	actgttagtg	540
gagactacca	gaacagtcag	tcccagtgct	agggaatcaa	agagaacatg	ttccctctct	600
aaagggcaca	gctgctgctc	agcttttagct	gattgctgcc	ctgcaggact	ataggccag	660
tggttgctaga	tcttttgatg	tttcaagaga	agcttggaat	ctagaatgtg	atgggaagtc	720
tcttacattt	aaacatgttg	gcaattaatg	gtaagattta	aaaatactgt	ggtccaagaa	780
aaaaatggat	ttggaaactg	gattaaattc	aaatgaggca	tgcagattaa	tctacagcat	840
ggtacaatgt	gaattttctg	gtttctttta	ttgcactgta	attaggtaag	atgttagctt	900
tggggaagct	aagtgcagag	tatgcagaaa	ctattatttt	tgtaagtgtt	ctctaagtat	960
aaataaattt	caaaaataaa	ataaaaactt	agtaaagaac	tataatgcaa	ttctatgtaa	1020
gccaaacata	atatgtcttc	cagtttgaaa	cctctggggt	ttattttatt	ttattttatt	1080
tttgagacag	agtcttgctg	tgtaacccag	gctggaagt	agtggcacta	tttcggccca	1140
ctgcaacctc	cacctcccag	gctcaaata	ttctcctgcc	tcagcctccg	gagtagctgg	1200
gattacaggc	gcgtaccacc	acaccagct	aatttttgta	tttttagtag	agatgggggt	1260
tcaccatttt	ggccaggctg	gttttgaaat	cctgacctca	agtgatccac	ttgtcttggt	1320
ctcccaaat	gctgggatta	caggcgtgag	ccactgcacc	aggcagaggc	ctctgttttt	1380
tatctctttt	tggcctctac	agtgccctagt	aaagcacctg	atacatggta	aacgatcagt	1440
aattactagt	actctatttt	ggagaaaatg	attttttaaa	aagtcattgt	gttccatcca	1500
tgagtgcgtt	gagttttaaa	actgtctttt	tgtttgtttt	tgaacagggt	tacaaaggag	1560



gaaaacgact	tcttctagat	ttttttttca	gtttcttcta	taaatcaaaa	catctcaaaa	1620
tggagaccta	aaatccttaa	agggacttag	tctaactctcg	ggaggtagtt	ttgtgcatgg	1680
gtaaacaaat	taagtattaa	ctgggtgtttt	actatccaaa	gaatgctaata	tttataaaca	1740
tgatcgagtt	atataaggta	taccataatg	agtttgattt	tgaatttgat	ttgtggaaat	1800
aaaggaaaag	tgattctagc	tggggcatat	tgtaaagca	tttttttcag	agttggccag	1860
gcagtcctct	actggcacat	tctcccatta	tgtagaatag	aaatagtacc	tgtgtttggg	1920
aaagattttta	aaatgagtg	cagttattttg	gaacaaagag	ctaataatca	atccactgca	1980
aattaagaa	acatgcagat	gaaagttttg	acacattaaa	atacttctac	agtgacaaa	2040
aaaaatcaag	aacaaagctt	tttgatatgt	gcaacaaatt	tagaggaagt	aaaaagataa	2100
atgtgatgat	tggccaagaa	attatccagt	tatttacaag	gccactgata	ttttaaacgt	2160
ccaaaagttt	gtttaaatgg	gctgtttaccg	ctgagaatga	tgaggatgag	aatgatgggt	2220
gaaggttaca	ttttaggaaa	tgaagaaact	tagaaaatta	atataaagac	agtgatgaa	2280
acaaagaaga	tttttataac	aatgtgtaaa	atttttggcc	agggaaagga	atattgaagt	2340
tagatacaat	tacttacctt	tgagggaagt	aattgttggt	aatgagatgt	gatgtttctc	2400
ctgccacctg	gaaacaaagc	attgaagtct	gcagttgaaa	agcccaacgt	ctgtgagatc	2460
caggaaacca	tgcttgcaaa	ccactggtaa	aaaaaaaaaa	aaaaaaaaaa	aaagccacag	2520
tgacttgctt	attgggtcatt	gctagtatta	tcgactcaga	acctctttac	taatggctag	2580
taaatcataa	ttgagaaaatt	ctgaattttg	acaaggtctc	tgctgttgaa	atggtaaatt	2640
tattattttt	tttgtcatga	taaattctgg	ttcaaggtat	gctatccatg	aaataatttc	2700
tgaccaaaac	taaattgatg	caatttgatt	atccatctta	gcctacagat	ggcatctggt	2760
aacttttgac	tgttttaaaa	aataaatcca	ctatcagagt	agatttgatg	ttggcttcag	2820
aaacatttag	aaaaacaaaa	gttcaaaaat	gttttcagga	ggtgataagt	tgaataactc	2880
tacaatgtta	gttctttgag	ggggacaaaa	aattttaa	ctttgaaagg	tcttatttta	2940
cagccatata	taaattatct	taagaaaatt	tttaacaaag	ggaatgaaat	atatatcatg	3000
attctgtttt	tccaaaagta	acctgaatat	agcaatgaag	ttcagttttg	ttattggtag	3060
tttgggcaga	gtctcttttt	gcagcacctg	ttgtctacca	taattacaga	ggacatttcc	3120
atgttctagc	caagtatact	attagaataa	aaaaacttaa	cattgagttg	cttcaacagc	3180
atgaaactga	gtccaaaaga	ccaaatgaac	aaacacatta	atctctgatt	atttatttta	3240
aatagaatat	ttaatttgtg	aagatcta	agtatcatta	tacttaagca	atcatattcc	3300
tgatgatcta	tgggaaataa	ctattatttt	attaatattg	aaaccaggtt	ttaagatgtg	3360
ttagccagtc	ctgttactag	taaatctctt	tatttgagga	gaaattttag	attgttttgt	3420
tctccttatt	agaaggattg	tagaaagaaa	aaaatgacta	attggagaaa	aattggggat	3480
atatcatatt	tcaactgaatt	caaaatgtct	tcagttgtaa	atcttaccat	tattttacgt	3540
acctctaaga	aataaaagtg	cttctaataa	tcattatgatg	tcattaatta	tgaataactt	3600
cttgataaca	gaagttttta	aatagccatc	ttagaatcag	tgaatatgg	taagtatta	3660
ttttcctcct	ttgagtnagg	tcttgtgctt	ttnttctctg	gccactaaat	ntcaccatnt	3720
ccaanaagca	aantaaacct	attctgaata	tttttgcgtg	gaaacacttg	ncagcagagc	3780
ttcccncca	tgnnagaagc	ttcatgagtc	acacattaca	tctttgggtt	gattgaatgc	3840
cactgaaaca	tttctagtag	cctggagnag	ttgacctacc	tgtggagatg	cctgccatta	3900
aatggcatcc	tgatggctta	atacacatca	ctcttctgtg	nagggtttta	attttcaaca	3960
cagcttactc	tgtagcatca	tgtttacatt	gtatgtataa	agattatacn	aaggtgcaat	4020
tgtgtatttc	ttccttaaaa	tgtatcagta	taggatttag	aatctccatg	ttgaaactct	4080
aatgcatag	aaataaaaa	aataaaaaat	ttttcatttt	ggcttttcag	cctagtatta	4140
aaactgataa	aagcaaagcc	atgcacaaaa	ctacctccct	agagaaaggc	tagtcccttt	4200
tcttccccat	tcatttcatt	atgaacatag	tagaaaacag	catattctta	tcaaatttga	4260
tgaaaagcgc	caacacgttt	gaactgaaat	acgacttgtc	atgtgaactg	taccgaatgt	4320
ctacgtattc	cacttttccct	gctgggggtt	ctgtctcaga	aaggagtctt	gctcgtgctg	4380
gtttctatta	cactgggtgtg	aatgacaagg	tcaaagtctt	ctgttggtgg	ctgatgctgg	4440
ataactggaa	aagaggagac	agtcctactg	aaaagcataa	aaagtgtgat	cctagctgca	4500
gattcggttca	gagtcataat	tccgttaaca	acttggaagc	tacctctcag	cctacttttc	4560
cttcttcagt	aacacattcc	acacactcat	tacttccggg	tacagaaaac	agtggatatt	4620
tccgtggctc	ttattcaaac	tctccatcaa	atcctgtaaa	ctccagagca	aatcaagaat	4680
tttctgcctt	gatgagaagt	tcctaccctt	gtccaatgaa	taacgaaaat	gccagattac	4740
ttacttttca	gacatggcca	ttgacttttc	tgtcgccaac	agatctggca	cgagcaggct	4800
tttactacat	aggacctgga	gacagagtgg	cttgctttgc	ctgtggtgga	aaattgagca	4860
attgggaacc	gaaggataat	gctatgtcag	aacacctgag	acattttccc	aaatgcccat	4920
ttatagaaa	tcagcttcaa	gacacttcaa	gatacacagt	ttctaactctg	agcatgcaga	4980
cacatgcagc	ccgctttaaa	acattcttta	actggccctc	tagtgttcta	gttaactctg	5040
agcagcttgc	aagtgcgggt	ttttattatg	tgggtaacag	tgatgatgtc	aaatgctttt	5100

gctgtgatgg	tggactcagg	tgttggaat	ctggagatga	tccatgggtt	caacatgcca	5160
agtggtttcc	aagggtgtgag	tacttgataa	gaattaaagg	acaggagttc	atccgtcaag	5220
ttcaagccag	ttaccctcat	ctacttgaac	agctgctatc	cacatcagac	agcccaggag	5280
atgaaatgc	agagtcatca	attatccatt	ttgaacctgg	agaagaccat	tcagaagatg	5340
caatcatgat	gaatactcct	gtgattaatg	ctgccgtgga	aatgggcttt	agtagaagcc	5400
tggtaaaaca	gacagttcag	agaaaaatcc	tagcaactgg	agagaattat	agactagtca	5460
atgatcttgt	gttagactta	ctcaatgcag	aagatgaaat	aagggaagag	gagagagaaa	5520
gagcaactga	ggaaaaagaa	tcaaatgatt	tattattaat	ccggaagaat	agaatggcac	5580
tttttcaaca	tttgacttgt	gtaattccaa	tcctggatag	tctactaact	gccggaatta	5640
ttaatgaaca	agaacatgat	gttattaaac	agaagacaca	gacgtcttta	caagcaagag	5700
aactgattga	tacgatttta	gtaaaaggaa	atattgcagc	cactgtattc	agaaactctc	5760
tgcaagaagc	tgaagctgtg	ttatatgagc	atattttgt	gcaacaggac	ataaaatata	5820
ttcccacaga	agatgtttca	gatctaccag	tggagaaca	attgcggaga	ctacaagaag	5880
aaagaacatg	taaagtgtgt	atggacaaag	aagtgtccat	agtgtttatt	ccttgtgggtc	5940
atctagtagt	atgcaaagat	tgtgctcctt	ctttaagaaa	gtgtcctatt	tgtaggagta	6000
caatcaaggg	tacagttcgt	acatttcttt	catgaagaag	aaccaaaca	tcgtctaaac	6060
tttagaatta	atttattaaa	tgtattataa	ctttaacttt	tatcctaatt	tggtttcctt	6120
aaaattttta	tttatattaca	actcaaaaaa	cattgttttg	tgtaacatat	ttatatatgt	6180
atctaaacca	tatgaacata	tatttttttag	aaactaagag	aatgataggc	ttttgttctt	6240
atgaacgaaa	aagaggtagc	actacaaaca	caatattcaa	tcaaaatttc	agcattattg	6300
aaattgtaag	tgaagtaaaa	cttaagatat	ttgagttaac	ctttaagaat	tttaaataatt	6360
ttggcattgt	actaataccg	ggaacatgaa	gccagggtgtg	gtggtatgtg	cctgtagtcc	6420
caggctgagg	caagagaatt	acttgagccc	aggagtttga	atccatcctg	ggcagcatatc	6480
tgagaccctg	ccttttaaaaa	caaacagaac	aaaaacaaaa	caccagggac	acatttctct	6540
gtctttttgt	atcagtgctc	tatacatcga	agggtgtgcat	atatgttgaa	tcacatttta	6600
gggacatggt	gtttttataa	agaattctgt	gagaaaaaat	ttaataaagc	aaccaaataa	6660
aaaaaaaaa						6669

<210> 231

<211> 3000

<212> DNA

<213> Homo sapiens

<400> 231

ttgcaggtag	ttagaatttt	tcctgagcca	ccctctagag	ggcagtgtta	catatatatc	60
tgtaatatc	cagttacaac	aaaaaaagg	ctctcattca	tgcattgaaa	tcagaaatat	120
ttcatactct	taaagaacac	attggaacca	atattatgat	taaaacatat	tttgctaagc	180
aaagagatat	taaaaattaa	ttcattaaca	ttctgaacat	tttttaactt	gtaaaaacaa	240
ctttgatgcc	ttgaatatat	aatgattcat	tataacaatt	atgcatagat	tttaataatc	300
tgcataattt	atgctttcat	gtttttccta	attaatgatt	tgacatgggt	aataattata	360
atatattctg	catcacagtt	tacatattta	tgtaaaataa	gcatttaaaa	attattagtt	420
ttattctgcc	tgcttaata	ttactttcct	caaaaagaga	aaacaaaaat	gctagatttt	480
actttatgac	ttgaatgatg	tggtaatgtc	gaactctagt	atttagaatt	agaatgtttc	540
ttagcgggtc	tgtagttatt	tttatgtcat	aagtggataa	tttgtagct	cctataacaa	600
aagtctgttg	cttgtgtttc	acatttttga	tttcctaata	taatgttctc	tttttagaaa	660
agggtggaca	gtcctatttt	caagagaaga	tgacttttaa	cagttttgaa	ggatctaaaa	720
cttgtgtacc	tgcagacatc	aataaggaag	aagaatttgt	agaagagttt	aatagattaa	780
aaacttttgc	taattttcca	agtggtagtc	ctgtttcagc	atcaacactg	gcacgagcag	840
ggtttcttta	tactggtgaa	ggagataccg	tgcggtgctt	tagttgtcat	gcagctgtag	900
atagatggca	atatggagac	tcagcagttg	gaagacacag	gaaagtatcc	ccaaattgca	960
gatttatcaa	cggctttttat	cttgaaaata	gtgccacgca	gtctacaaat	tctggtatcc	1020
agaatggtca	gtacaaagtt	gaaaactatc	tgggaagcag	agatcatttt	gccttagaca	1080
ggccatctga	gacacatgca	gactatcttt	tgagaactgg	gcaggttgta	gatatatcag	1140
acaccatata	cccaggaagc	cctgccatgt	attgtgaaga	agctagatta	aagtcctttc	1200
agaactggcc	agactatgct	cacctaacc	caagagagtt	agcaagtgtc	ggactctact	1260
acacaggtat	tgggtgaccaa	gtgcagtgtc	tttgtgtgg	tggaaaactg	aaaaattggg	1320
aacctgtgta	togtgcctgg	tcagaacaca	ggcgacactt	tcctaattgc	ttctttgttt	1380

tgggccggaa	tcttaatat	cgaagtgaat	ctgatgctgt	gagttctgat	aggaatttcc	1440
caaatcaac	aaatcttcca	agaaatccat	ccatggcaga	ttatgaagca	cggatcttta	1500
cttttgggac	atggatatac	tcagttaaca	aggagcagct	tgcaagagct	ggattttatg	1560
cttttaggtga	aggtgataaa	gtaaagtgt	ttcactgtgg	aggagggcta	actgattgga	1620
agcccagtg	agacccttg	gaacaacatg	ctaaatggta	tccaggtgct	aaatatctgt	1680
tagaacagaa	gggacaagaa	tatataaaca	atattcattt	aactcattca	cttgaggagt	1740
gtctggtgtaag	aactactgag	aaaacaccat	cactaactag	aagaattgat	gataccatct	1800
tccaaaatcc	tatggtacaa	gaagctatac	gaatgggggt	cagtttcaag	gacattaaga	1860
aaataatgga	ggaaaaaatt	cagatatctg	ggagcaacta	taaatcactt	gagggtctgg	1920
ttgcagatct	agtgaatgct	cagaaagaca	gtatgcaaga	tgagtcaagt	cagacttcat	1980
tacagaaaga	gattagtact	gaagagcagc	taaggcgct	gcaagaggag	aagctttgca	2040
aaatctgtat	ggatagaaat	attgctatcg	tttttggtcc	ttgtggacat	ctagtcactt	2100
gtaaacaatg	tgctgaagca	gttgacaagt	gtcccatgtg	ctacacagtc	attactttca	2160
agcaaaaaat	ttttatgtct	taatctaact	ctatagtagg	catgttatgt	tgttcttatt	2220
accctgattg	aatgtgtgat	gtgaactgac	tttaagtaat	caggattgaa	ttccattagc	2280
atttgctacc	aagtaggaaa	aaaaatgtac	atggcagtgt	tttagttggc	aatataatct	2340
ttgaatttct	tgatttttca	gggtattagc	tgtattatcc	atTTTTTTta	ctgttattta	2400
attgaaacca	tagactaaga	ataagaagca	tcatactata	actgaacaca	atgtgtattc	2460
atagtatact	gatttaattt	ctaagtgtaa	gtgaattaat	catctggatt	ttttattctt	2520
ttcagatagg	cttaacaaat	ggagctttct	gtatataaat	gtggagatta	gagttaatct	2580
ccccaatcac	ataatttggt	ttgtgtgaaa	aagggaataaa	ttgttccatg	ctggtggaaa	2640
gatagagatt	gttttttagag	gttggttggt	gtgttttagg	attctgtcca	ttttctttta	2700
aagttataaa	cacgtacttg	tgcaatttat	ttttttaag	tgatttgcca	tttttgaaag	2760
cgtatttaat	gatagaatac	tatcgagcca	acatgtactg	acatggaaag	atgtcaaaga	2820
tatgttaagt	gtaaaatgca	agtggcaaaa	cactatgtat	agtctgagcc	agatcaaagt	2880
atgtatgttt	ttaatatgca	tagaacaaaa	gatttggaag	gatatacacc	aaactgttaa	2940
atgtggtttc	tcttcgggga	gggggggatt	gggggagggg	ccccataggg	gttttatagg	3000